

WHAT IS CLAIMED IS:

1. Aged dermis equivalent, comprising at least glycated collagen and fibroblasts.
2. Aged dermis equivalent according to
5 Claim 1, having a level of glycation of from 2 to 30.
3. Aged dermis equivalent according to Claim 1, having a level of glycation of from 8 to 18.
4. Aged dermis equivalent according to
10 Claim 1, wherein the glycated collagen comprises collagen of animal or human origin.
5. Aged dermis equivalent according to Claim 4, wherein the glycated collagen comprises collagen of animal origin.
6. Aged dermis equivalent according to
15 Claim 5, wherein the glycated collagen comprises collagen of bovine origin.
7. Aged dermis equivalent according to Claim 1, wherein the glycated collagen comprises type I collagen.
8. Aged dermis equivalent according to
20 Claim 6, wherein the glycated collagen comprises type I collagen.
9. Aged dermis equivalent according to Claim 1, wherein the fibroblasts comprise fibroblasts of
25 human origin.
10. Aged dermis equivalent according to Claim 5, wherein the fibroblasts comprise fibroblasts of human origin.
11. Aged dermis equivalent according to
30 Claim 6, wherein the fibroblasts comprise fibroblasts of human origin.

12. Aged dermis equivalent according to Claim 7, wherein the fibroblasts comprise fibroblasts of human origin.

5 13. Epidermis equivalent comprising at least keratinocytes, said epidermis equivalent being obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

10 14. Epidermis equivalent comprising at least keratinocytes, said epidermis equivalent having modified expression of $\beta 1$ integrin.

15 15. Epidermis equivalent according to Claim 14, having expression of $\beta 1$ integrin in the cells of at least the first three suprabasal layers.

20 16. Epidermis equivalent comprising at least keratinocytes, said epidermis equivalent having modified expression of $\beta 1$ integrin, said epidermis equivalent being obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

25 17. Epidermis equivalent comprising at least keratinocytes, said epidermis equivalent having $\beta 1$ integrin expression in the cells of at least the first three suprabasal layers, said epidermis equivalent being obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

30 18. Epidermis equivalent according to Claim 13, wherein the keratinocytes comprise keratinocytes of human origin.

19. Epidermis equivalent according to Claim 14, wherein the keratinocytes comprise keratinocytes of human origin.

20. Epidermis equivalent according to Claim 15, wherein the keratinocytes comprise keratinocytes of human origin.

5 21. Epidermis equivalent according to Claim 16, wherein the keratinocytes comprise keratinocytes of human origin.

22. Epidermis equivalent according to Claim 17, wherein the keratinocytes comprise keratinocytes of human origin.

10 23. Epidermis equivalent according to Claim 13, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

15 24. Epidermis equivalent according to Claim 14, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

25. Epidermis equivalent according to Claim 15, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

20 26. Epidermis equivalent according to Claim 16, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

27. Epidermis equivalent according to Claim 17, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

25 28. Epidermis equivalent according to Claim 18, further comprising melanocytes and/or Langerhans cells and/or precursors of Langerhans cells.

29. Aged skin equivalent, comprising at least one epidermis equivalent and one aged dermis equivalent.

30 30. Aged skin equivalent according to Claim 29, wherein the aged dermis equivalent comprises at least glycated collagen and fibroblasts.

31. Aged skin equivalent according to Claim 29, wherein the epidermis equivalent is obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

32. Aged skin equivalent according to Claim 30, wherein the epidermis equivalent is obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

33. Aged skin equivalent according to Claim 29, wherein the epidermis equivalent comprises at least keratinocytes, said epidermis equivalent having modified expression of $\beta 1$ integrin.

34. Aged skin equivalent according to Claim 33, wherein the epidermis equivalent has expression of $\beta 1$ integrin in the cells of at least the first three suprabasal layers.

35. Aged skin equivalent according to Claim 29, wherein the epidermis equivalent has modified expression of $\beta 1$ integrin and is obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

36. Aged skin equivalent according to Claim 29, wherein the epidermis equivalent has $\beta 1$ integrin expression in the cells of at least the first three suprabasal layers, said epidermis equivalent being obtained by seeding of at least keratinocytes onto a dermis equivalent comprising at least glycated collagen and fibroblasts.

37. A method for preparing an aged skin equivalent comprising an epidermis equivalent and an aged dermis equivalent which comprises a lattice comprising at

least glycated collagen and fibroblasts, said method comprising, in a first step, preparing a lattice comprising at least glycated collagen and fibroblasts and, in a second step, reconstructing an epidermis equivalent comprising at least keratinocytes onto the
5 lattice obtained in the first step.

38. A method according to Claim 37, further comprising glycating the collagen used in the first step prior to preparing the lattice.

10 39. A method according to Claim 38, comprising glycating the collagen by contacting a solution of at least one collagen and a solution of at least one glycating agent in such manner as to induce the glycation reaction in vitro in the absence of cells.

15 40. A method according to Claim 37, wherein the collagen comprises collagen of human or animal origin.

41. A method according to Claim 38, wherein the collagen comprises collagen of human or animal
20 origin.

42. A method according to Claim 39, wherein the collagen comprises collagen of human or animal origin.

43. A method according to Claim 40, wherein
25 the collagen comprises collagen of animal origin.

44. A method according to Claim 41, wherein the collagen comprises collagen of animal origin.

45. A method according to Claim 42, wherein the collagen comprises collagen of animal origin.

30 46. A method according to Claim 43, wherein the collagen comprises collagen of bovine origin.

47. A method according to Claim 44, wherein the collagen comprises collagen of bovine origin.

48. A method according to Claim 45, wherein the collagen comprises collagen of bovine origin.

49. A method according to Claim 37, wherein the collagen comprises type I, III or V collagen.

5 50. A method according to Claim 40, wherein the collagen comprises type I, III or V collagen.

51. A method according to Claim 46, wherein the collagen comprises type I, III or V collagen.

10 52. A method according to Claim 49, wherein the collagen comprises type I collagen.

53. A method according to Claim 50, wherein the collagen comprises type I collagen.

54. A method according to Claim 51, wherein the collagen comprises type I collagen.

15 55. A method according to Claim 52, wherein the collagen comprises bovine type I collagen.

56. A method according to Claim 53, wherein the collagen comprises bovine type I collagen.

20 57. A method according to Claim 54, wherein the collagen comprises bovine type I collagen.

58. A method according to Claim 37, wherein the collagen is at a concentration of from 2 mg/ml to 6 mg/ml.

25 59. A method according to Claim 58, wherein the collagen is at a concentration of from 3 mg/ml to 5 mg/ml.

60. A method according to Claim 58, wherein the collagen is bovine type I collagen.

30 61. A method according to Claim 59, wherein the collagen is bovine type I collagen.

62. A method according to Claim 39, wherein the glycating agent is an agent which is capable of

reacting with an amino group of the collagen to form a Schiff's base according to the Maillard reaction.

63. A method according to Claim 62, wherein the glycating agent comprises glucosone,
5 3-deoxyglucosone, glyoxal, methylglyoxal or a sugar.

64. A method according to Claim 63, wherein the glycating agent is a sugar.

65. A method according to Claim 64, wherein the sugar comprises an ose.

10 66. A method according to Claim 65, wherein the ose comprises ribose, fructose or glucose.

67. A method according to Claim 39, wherein the glycating agent comprises ribose or glucose.

15 68. A method according to Claim 39, wherein the amount of glycating agent is from 0.5% to 20% by weight of the total weight of the collagen solution.

69. A method according to Claim 68, wherein the amount of glycating agent is from 1% to 10% by weight of the total weight of the collagen solution.

20 70. A method according to Claim 38, wherein the glycation reaction is carried out at a temperature of from 15°C to 30°C.

25 71. A method according to Claim 39, wherein the glycation reaction is carried out at a temperature of from 15°C. to 30°C.

72. A method according to Claim 70, wherein the glycation reaction is carried out at a temperature of from 20°C. to 25°C.

30 73. A method according to Claim 38, wherein the duration of the glycation reaction is from 15 days to 2 months.

74. A method according to Claim 39, wherein the duration of the glycation reaction is from 15 days to 2 months.

5 75. A method according to Claim 73, wherein the duration of the glycation reaction is from 25 days to 35 days.

76. A method according to Claim 74, wherein the duration of the glycation reaction is from 25 days to 35 days.

10 77. A method according to Claim 37, wherein the collagen is a mixture of preglycated collagen and non-glycated collagen.

78. A method according to Claim 77, wherein the ratio of glycated collagen to non-glycated collagen is from 25 to 75.

15 79. A method according to Claim 78, wherein the ratio of glycated collagen to non-glycated collagen is from 45 to 55.

80. A method according to Claim 37, wherein the keratinocytes comprise keratinocytes of human origin.

81. A method according to Claim 38, wherein the keratinocytes comprise keratinocytes of human origin.

82. A method according to Claim 39, wherein the keratinocytes comprise keratinocytes of human origin.

25 83. Use of an aged dermis equivalent as claimed in Claim 1, in the preparation of epidermis and/or aged skin equivalent.

84. Use of an aged dermis equivalent as claimed in Claim 1, in the study of the glycation phenomenon and modulators of said phenomenon, in the study of photoaging and the effects of ultraviolet rays on the dermis and modulators of said effects or in the

study of the influence of glycation on the components of the dermis.

85. Use of an aged epidermis equivalent as claimed in Claim 13, in the study of the glycation
5 phenomenon and modulators of said phenomenon, in the study of phenomena linked to aged epidermis, in the study of modulators of the appearance of wrinkles, in the study of photoaging and the effect of ultraviolet rays on the epidermis and modulators of said effect or in the study
10 of the influence of glycation on the components of the epidermis and the annexes of the skin.

86. Use of an aged skin equivalent as claimed in Claim 29, in the study of the glycation phenomenon and modulators of said phenomenon, in the study of phenomena
15 linked to aged skin and/or epidermis, in the study of modulators of the appearance of wrinkles, in the study of photoaging and the effect of ultraviolet rays on the skin and/or the dermis and/or the epidermis and modulators of said effect, in the study of the influence of glycation
20 on the components and/or annexes of the skin and/or dermis and/or epidermis, or in the study of the complications caused by diabetes via glycation.